

DUTY STATEMENT

Classification: Research Scientist III (Epidemiology/Biostatistics)		Position Number: 811-135-5594-008	
Section/Unit: Community and Environmental Epidemiology Research Branch/Air and Climate Epidemiology Section			
Location: Oakland/Sacramento		Effective Date:	
Management Designation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Conflict of Interest <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Supervision Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Supervision Exercised: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Pursuant to Government Code Section 3100-3109, all public employees are declared to be disaster service workers for the protection of the health and safety and preservation of the lives and property of the people of the state from the effects of natural, man-made, or war-caused emergencies which result in conditions of disaster or extreme peril to life, property, and resources. This is of paramount state importance in protection of its citizens and resources.

POSITION SUMMARY

The Air and Climate Epidemiology Section (ACES) within the Community and Environmental Epidemiology Research Branch (CEERB) conducts epidemiological studies on the health effects of exposure to criteria air pollutants and climate change, such as ambient heat and wildfire exposures, for the general population and sensitive subgroups within California. Among other duties, ACES provides technical support for the analysis of health impacts in communities from greenhouse gas limits adopted by the Air Resources Board (ARB), analysis of health risks from oil and gas operations, and the identification of California communities burdened by multiple sources of pollution and population vulnerabilities. In addition, ACES provides technical assistance to other programs in the Office of Environmental Health Hazard Assessment (OEHHA), the California Environmental Protection Agency (CalEPA), the California Department of Public Health, and other California government entities.

Under general direction of the Senior Toxicologist, chief of ACES, the Research Scientist (RS) III (Epidemiology/Biostatistics) performs complex scientific research on the effects of air pollution and climate change on cardiovascular and respiratory mortality and morbidity, adverse birth outcomes and other toxic effects using state of the art statistical methodology. The RS III (E/B) is expected to make original and independent decisions on complex scientific problems and work as a member of a multidisciplinary team of scientists evaluating public health risks from exposures to airborne toxic substances in the community. The RS III (E/B) will perform the following duties and other related work:

ESSENTIAL FUNCTIONS

- 35% **Plan and develop studies on the human health effects of various air pollutants.** Develop epidemiological research studies of broad scope and high complexity concerning the human health effects, including impacts of prenatal exposure, impacts on infants and children, and on the elderly, to climate change, traffic-related pollutants and other air pollutants. Conduct and direct statistical analysis of the relevant data, which will be included in the basis of recommendations for the Ambient Air Quality Standards (AAQS), including univariate, bivariate, and multivariate analyses to identify confounding variables, Cox proportional hazards modeling, and other techniques to ascertain effect estimates from the raw data, and application of regression splines and other data smoothing techniques. Interact with a multi-disciplinary team of experts within OEHHA, and present findings to state public health experts.
- 20% **Manage epidemiological research databases.** Manage databases related to criteria air pollutants, meteorologic variables, mortality, morbidity, birth outcomes, and Medi-Cal among others that are needed to complete epidemiological research studies. The data will be retrieved from various sources including, the

(Attach additional sheet if necessary)

I have read and discussed these duties with my supervisor:		Date:
Employee Signature:		
I certify that the above accurately represent the duties of the position:		Date:
Supervisor Signature:		
PERSONNEL USE ONLY: This personnel transaction has been reviewed and approved by:		
Personnel Analyst Signature:		Date:

California Air Resources Board, US Environmental Protection Agency, National Oceanic and Atmospheric Administration, California Department of Public Health, and the Office of Statewide Health, Planning and Development for multiple years and locations throughout California.

- 20% **Disseminate research results.** Disseminate research findings in various specialist, non-specialist, and governmental forums. Provide expert information and testimony in hearings, meetings, and seminars on the health effects of airborne toxic materials, as found in investigations of environmental contaminants. Present findings to state public health experts. Prepare reports on the research findings for presentation to the Air Resources Board, other public institutions, scientific meetings, and the general public. Prepare articles for publication of the research in peer-reviewed journals.
- 10% **Conduct critical reviews of state AAQS.** Conduct critical reviews of state AAQS for criteria air pollutants including, but not limited to, ozone, particulate matter, nitrogen dioxide, and carbon monoxide. Critically evaluate published and unpublished literature including complex and highly technical epidemiology and toxicology studies, and conducting highly complex statistical analyses of raw data from researchers in the field. Evaluate and judge the utility of studies to set standards based on 1) the studies' ability to separate co-pollutant effects, 2) adequacy of exposure assessment, and 3) adequacy of statistical data analysis. Develop technical documents presenting the results of the epidemiological reviews and statistical analyses of the data, including; 1) determination of causality based on available epidemiological and toxicological evidence; 2) the determination of the health-based recommendation for the AAQS, based on sophisticated data analyses of published and in-house studies, 3) identification of health effects that may impact children and other potentially susceptible subpopulations, and 4) determination of research needs and priorities. Present findings to scientific committees, such as Air Quality Advisory Committee or the Scientific Review Panel.
- 10% **Provide analyses of candidate Toxic Air Contaminants.** Evaluate epidemiological literature on the health effects of candidate Toxic Air Contaminants (TACs). Write chapters for TAC health effects assessments using results of literature review and research projects. Provide epidemiological expertise to the development of Reference Exposure Levels and Unit Risk Factors for candidate TACs for use in risk assessments of stationary and mobile sources of TACs.

MARGINAL FUNCTIONS

- 5% Provide consultation, including review of health effects assessment reports by contractors, to other BDOs, the public and stakeholders, local agencies, other sections and branches of OEHHHA and other State agencies concerning the adverse effects of airborne chemical contaminants on members of the community, including infants and children.

REQUIRED QUALIFICATIONS

In-depth experience in conduct and review of epidemiology studies, with emphasis on public health and environmental epidemiology.
 Deep understanding of procedures for state-of-the-art biostatistical methods, epidemiological investigations, including study design, statistical analyses of data, and interpretation of results.
 Proficiency in critically evaluating research studies in the fields of epidemiology for application to issues of public health.
 Ability to interpret and apply environmental and public health standards.

DESIRED QUALIFICATIONS

Ability to work cooperatively with outside agencies and departmental staff
 Ability to communicate effectively.
 Ability to analyze situations accurately and take effective action.

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WORKING CONDITIONS

OEHHA's office is located in a downtown high-rise office building.

The air-conditioned accommodation consists of open areas furnished with cubicles, not all of which have direct natural illumination.

May at times necessitate attendance at external meetings outside standard office hours.

Time critical assignments are part of the workload.

Available to travel statewide and occasionally out of State.

Extended periods of reading and writing, and frequent use of computer workstations with statistical, bibliographic, communications or word processing software.

May be required to travel to other OEHHA locations for business related needs as necessary.

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